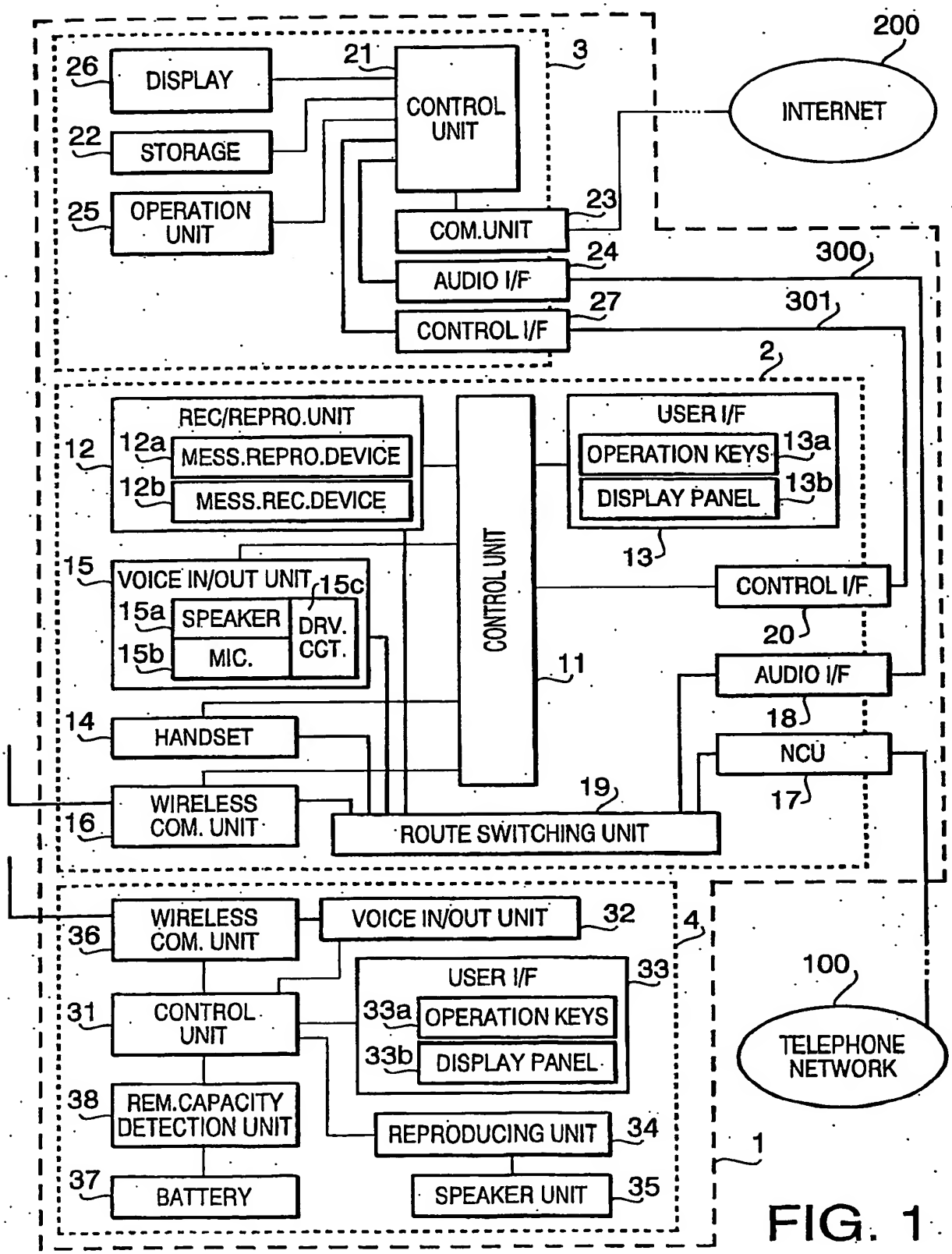

200
INTERNET
3
21
CONTROL UNIT
26
DISPLAY
22
STORAGE
25
OPERATION UNIT
23
COM.UNIT
24
AUDIO I/F
27
CONTROL I/F
300
301
2
REC/REPRO.UNIT
12
12a
MESS.REPRO.DEVICE
12b
MESS.REC.DEVICE
USER I/F
OPERATION KEYS
13a
DISPLAY PANEL
13b
13
15
VOICE IN/OUT UNIT
15c
15a
SPEAKER
DRV. CCT.
15b
MIC.
CONTROL UNIT
11
CONTROL I/F
20
AUDIO I/F
18
NCU
17
14
HANDSET
16
WIRELESS COM. UNIT
19
ROUTE SWITCHING UNIT
4
36
WIRELESS COM. UNIT
VOICE IN/OUT UNIT
32
33
USER I/F
33a
OPERATION KEYS
33b
DISPLAY PANEL
31
CONTROL UNIT
38
REM.CAPACITY DETECTION UNIT
REPRODUCING UNIT
34
37
BATTERY
SPEAKER UNIT
35
100
TELEPHONE NETWORK
1

FIG. 1

FIG. 2

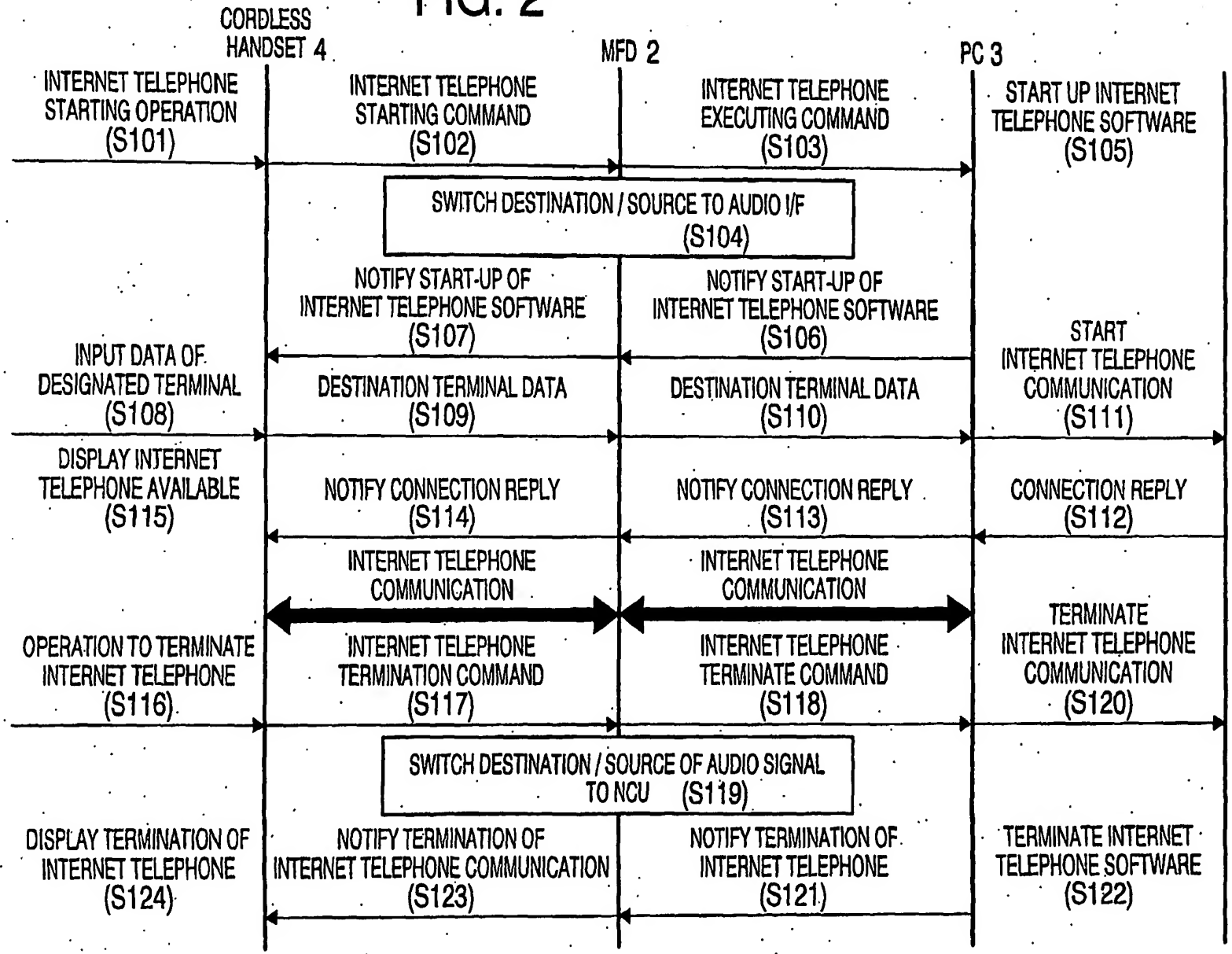

CORDLESS HANDSET 4
MFD 2
PC 3
INTERNET TELEPHONE STARTING OPERATION (S101)
INTERNET TELEPHONE STARTING COMMAND (S102)
INTERNET TELEPHONE EXECUTING COMMAND (S103)
START UP INTERNET TELEPHONE SOFTWARE (S105)
SWITCH DESTINATION / SOURCE TO AUDIO I/F (S104)
NOTIFY START-UP OF INTERNET TELEPHONE SOFTWARE (S107)
NOTIFY START-UP OF INTERNET TELEPHONE SOFTWARE (S106)
INPUT DATA OF DESIGNATED TERMINAL (S108)
DESTINATION TERMINAL DATA (S109)
DESTINATION TERMINAL DATA (S110)
START INTERNET TELEPHONE COMMUNICATION (S111)
DISPLAY INTERNET TELEPHONE AVAILABLE (S115)
NOTIFY CONNECTION REPLY (S114)
NOTIFY CONNECTION REPLY (S113)
CONNECTION REPLY (S112)
INTERNET TELEPHONE COMMUNICATION
INTERNET TELEPHONE COMMUNICATION
OPERATION TO TERMINATE INTERNET TELEPHONE (S116)
INTERNET TELEPHONE TERMINATION COMMAND (S117)
INTERNET TELEPHONE TERMINATE COMMAND (S118)
TERMINATE INTERNET TELEPHONE COMMUNICATION (S120)
SWITCH DESTINATION / SOURCE OF AUDIO SIGNAL TO NCU (S119)
DISPLAY TERMINATION OF INTERNET TELEPHONE (S124)
NOTIFY TERMINATION OF INTERNET TELEPHONE COMMUNICATION (S123)
NOTIFY TERMINATION OF INTERNET TELEPHONE (S121)
TERMINATE INTERNET TELEPHONE SOFTWARE (S122)

FIG. 3

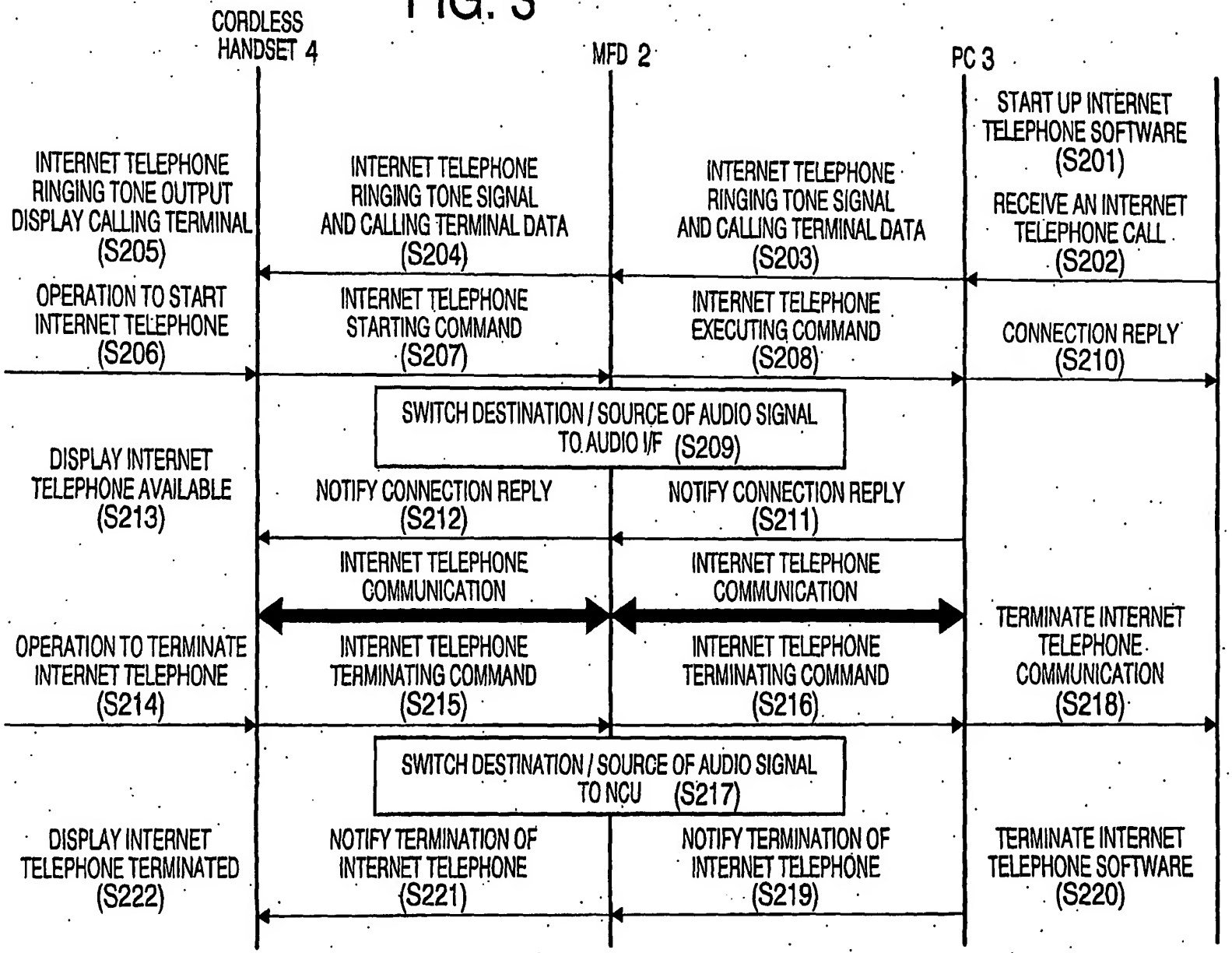

CORDLESS HANDSET 4
MFD 2
PC 3
START UP INTERNET TELEPHONE SOFTWARE (S201)
INTERNET TELEPHONE RINGING TONE OUTPUT DISPLAY CALLING TERMINAL (S205)
INTERNET TELEPHONE RINGING TONE SIGNAL AND CALLING TERMINAL DATA (S204)
INTERNET TELEPHONE RINGING TONE SIGNAL AND CALLING TERMINAL DATA (S203)
RECEIVE AN INTERNET TELEPHONE CALL (S202)
OPERATION TO START INTERNET TELEPHONE (S206)
INTERNET TELEPHONE STARTING COMMAND (S207)
INTERNET TELEPHONE EXECUTING COMMAND (S208)
CONNECTION REPLY (S210)
SWITCH DESTINATION / SOURCE OF AUDIO SIGNAL TO AUDIO I/F (S209)
DISPLAY INTERNET TELEPHONE AVAILABLE (S213)
NOTIFY CONNECTION REPLY (S212)
NOTIFY CONNECTION REPLY (S211)
INTERNET TELEPHONE COMMUNICATION
INTERNET TELEPHONE COMMUNICATION
OPERATION TO TERMINATE INTERNET TELEPHONE (S214)
INTERNET TELEPHONE TERMINATING COMMAND (S215)
INTERNET TELEPHONE TERMINATING COMMAND (S216)
TERMINATE INTERNET TELEPHONE COMMUNICATION (S218)
SWITCH DESTINATION / SOURCE OF AUDIO SIGNAL TO NCU (S217)
DISPLAY INTERNET TELEPHONE TERMINATED (S222)
NOTIFY TERMINATION OF INTERNET TELEPHONE (S221)
NOTIFY TERMINATION OF INTERNET TELEPHONE (S219)
TERMINATE INTERNET TELEPHONE SOFTWARE (S220)

FIG. 4

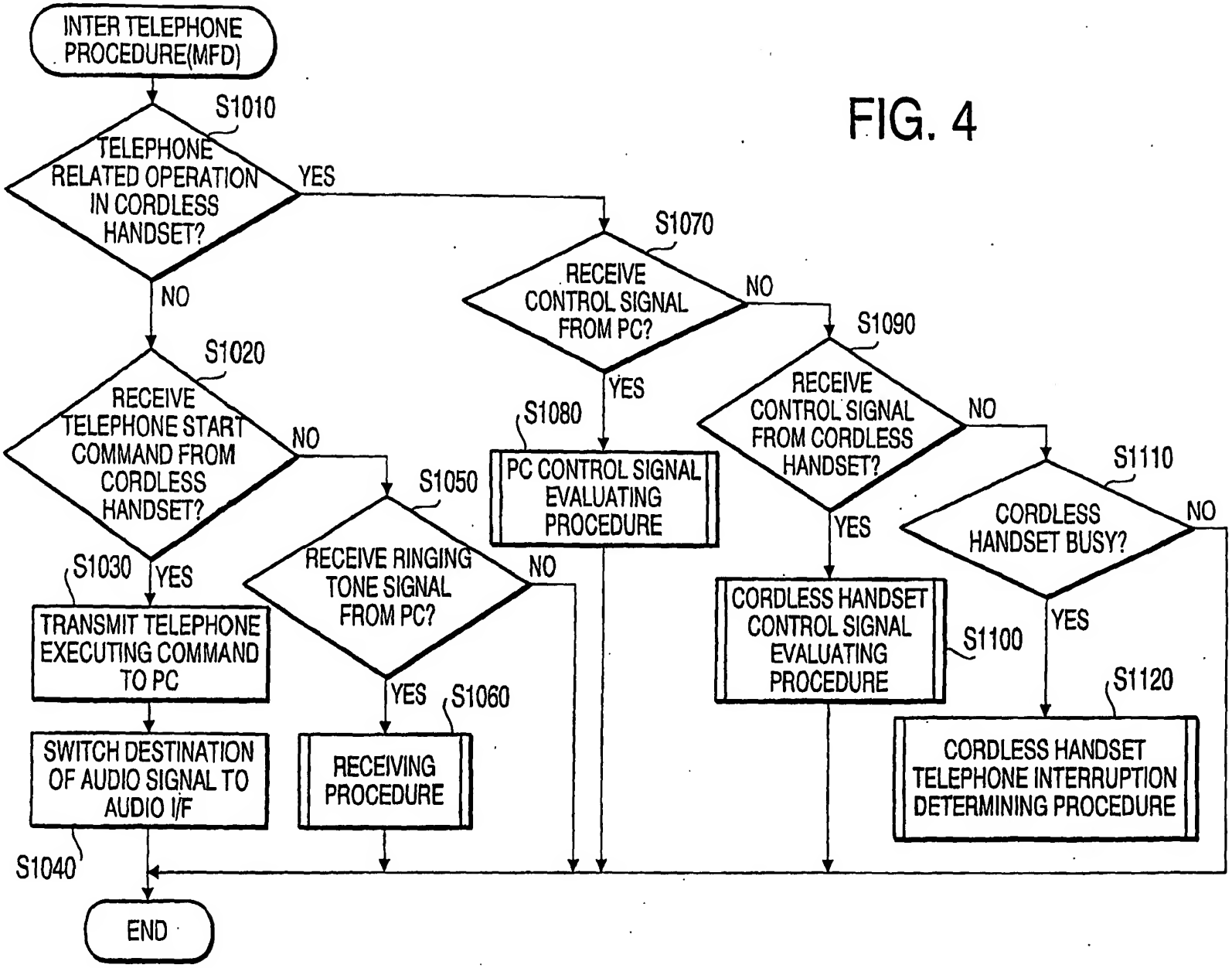

INTER TELEPHONE PROCEDURE(MFD)
S1010
TELEPHONE RELATED OPERATION IN CORDLESS HANDSET?
YES
NO
S1020
RECEIVE TELEPHONE START COMMAND FROM CORDLESS HANDSET?
NO
S1030
YES
TRANSMIT TELEPHONE EXECUTING COMMAND TO PC
SWITCH DESTINATION OF AUDIO SIGNAL TO AUDIO I/F
S1040
END
S1050
RECEIVE RINGING TONE SIGNAL FROM PC?
NO
YES
S1060
RECEIVING PROCEDURE
S1070
RECEIVE CONTROL SIGNAL FROM PC?
NO
YES
S1080
PC CONTROL SIGNAL EVALUATING PROCEDURE
S1090
RECEIVE CONTROL SIGNAL FROM CORDLESS HANDSET?
NO
YES
CORDLESS HANDSET CONTROL SIGNAL EVALUATING PROCEDURE
S1100
S1110
CORDLESS HANDSET BUSY?
NO
YES
S1120
CORDLESS HANDSET TELEPHONE INTERRUPTION DETERMINING PROCEDURE

FIG. 5

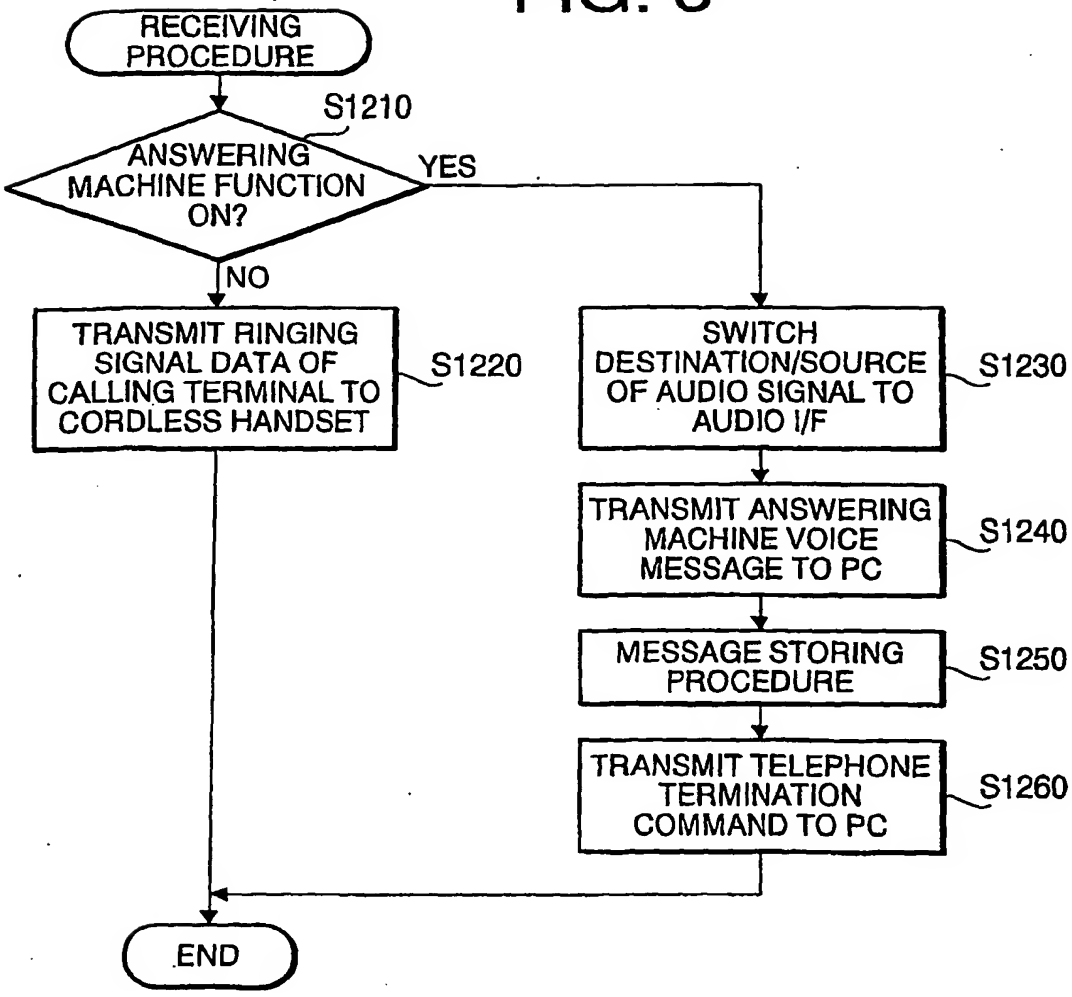

RECEIVING PROCEDURE
S1210
ANSWERING MACHINE FUNCTION ON?
YES
NO
TRANSMIT RINGING SIGNAL DATA OF CALLING TERMINAL TO CORDLESS HANDSET
S1220
SWITCH DESTINATION/SOURCE OF AUDIO SIGNAL TO AUDIO I/F
S1230
TRANSMIT ANSWERING MACHINE VOICE MESSAGE TO PC
S1240
MESSAGE STORING PROCEDURE
S1250
TRANSMIT TELEPHONE TERMINATION COMMAND TO PC
S1260
END

FIG. 6

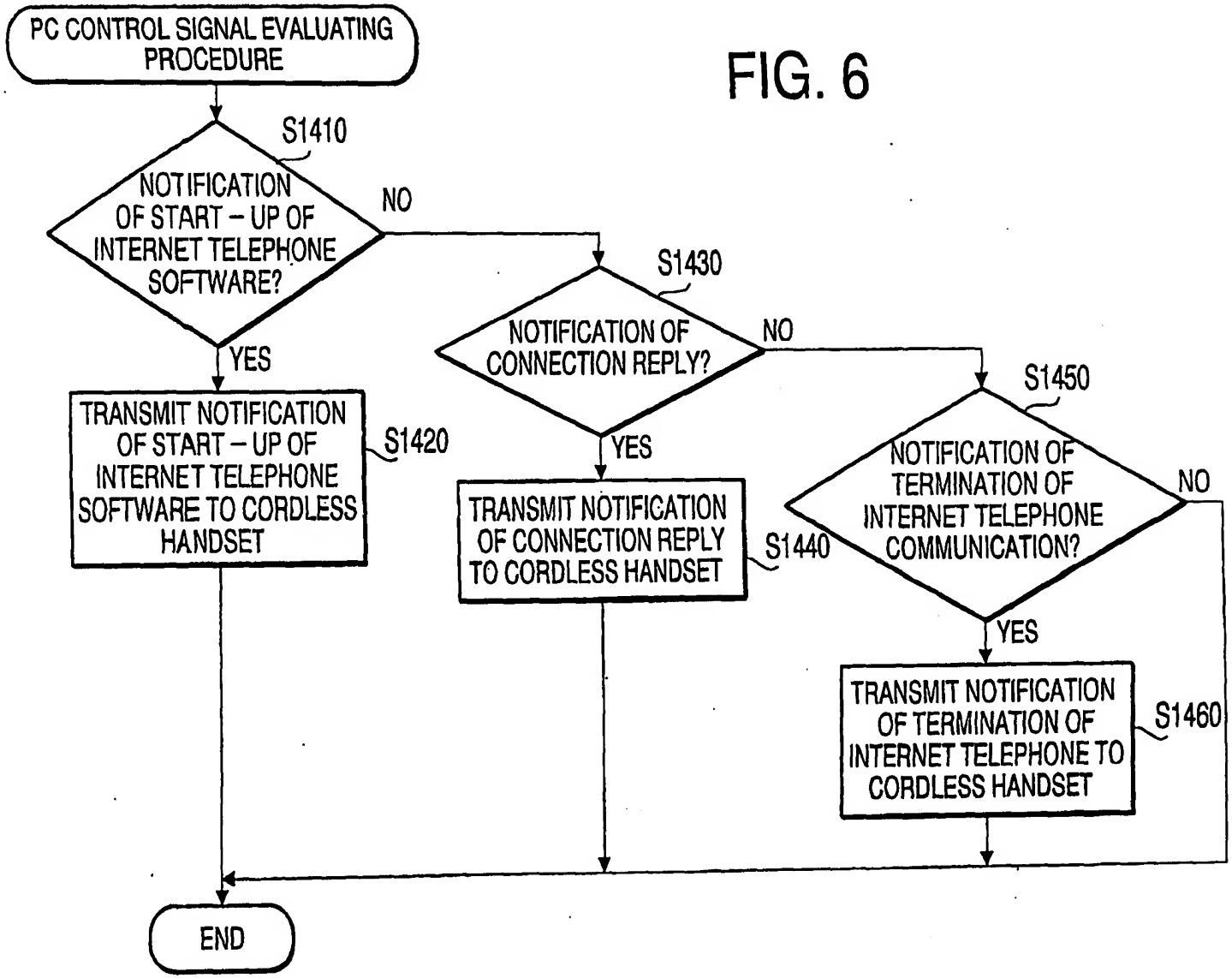

PC CONTROL SIGNAL EVALUATING PROCEDURE
S1410
NOTIFICATION OF START – UP OF INTERNET TELEPHONE SOFTWARE?
NO
YES
TRANSMIT NOTIFICATION OF START – UP OF INTERNET TELEPHONE SOFTWARE TO CORDLESS HANDSET
S1420
S1430
NOTIFICATION OF CONNECTION REPLY?
NO
YES
TRANSMIT NOTIFICATION OF CONNECTION REPLY TO CORDLESS HANDSET
S1440
S1450
NOTIFICATION OF TERMINATION OF INTERNET TELEPHONE COMMUNICATION?
NO
YES
TRANSMIT NOTIFICATION OF TERMINATION OF INTERNET TELEPHONE TO CORDLESS HANDSET
S1460
END

FIG. 7

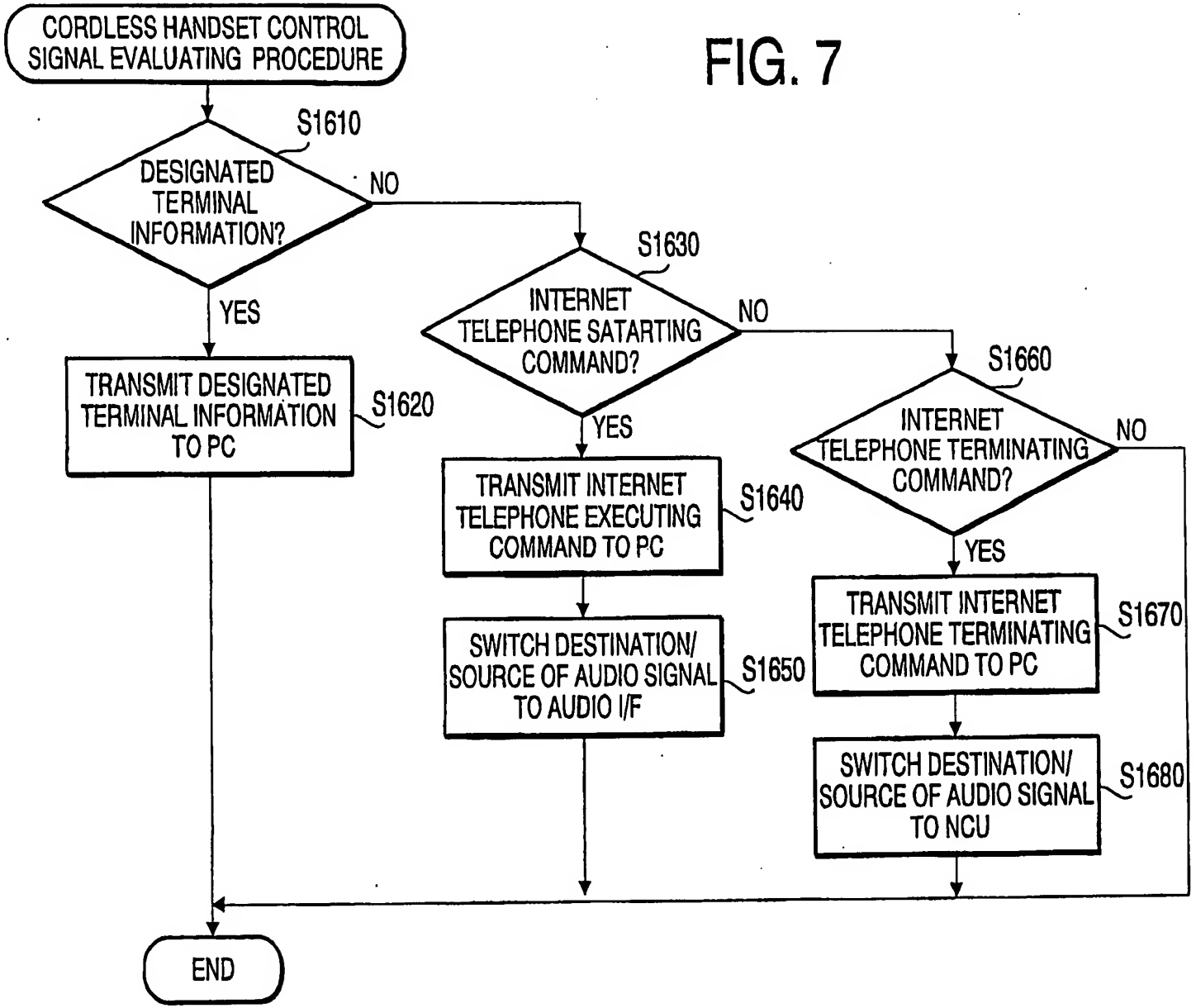

CORDLESS HANDSET CONTROL SIGNAL EVALUATING PROCEDURE
S1610
DESIGNATED TERMINAL INFORMATION?
NO
YES
TRANSMIT DESIGNATED TERMINAL INFORMATION TO PC
S1620
S1630
INTERNET TELEPHONE SATARTING COMMAND?
NO
YES
TRANSMIT INTERNET TELEPHONE EXECUTING COMMAND TO PC
S1640
SWITCH DESTINATION/ SOURCE OF AUDIO SIGNAL TO AUDIO I/F
S1650
S1660
INTERNET TELEPHONE TERMINATING COMMAND?
NO
YES
TRANSMIT INTERNET TELEPHONE TERMINATING COMMAND TO PC
S1670
SWITCH DESTINATION/ SOURCE OF AUDIO SIGNAL TO NCU
S1680
END

FIG. 8

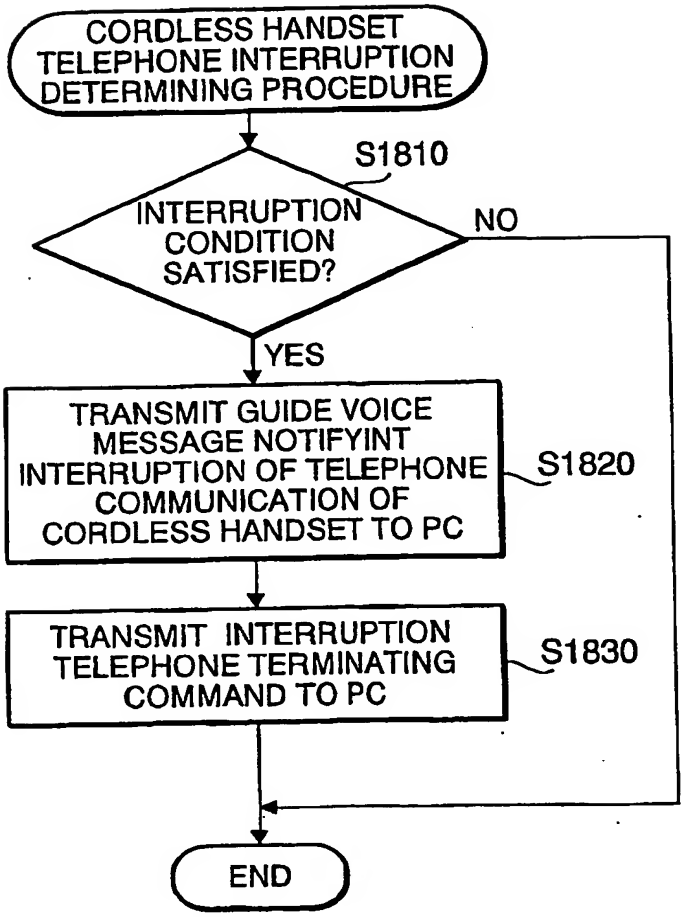
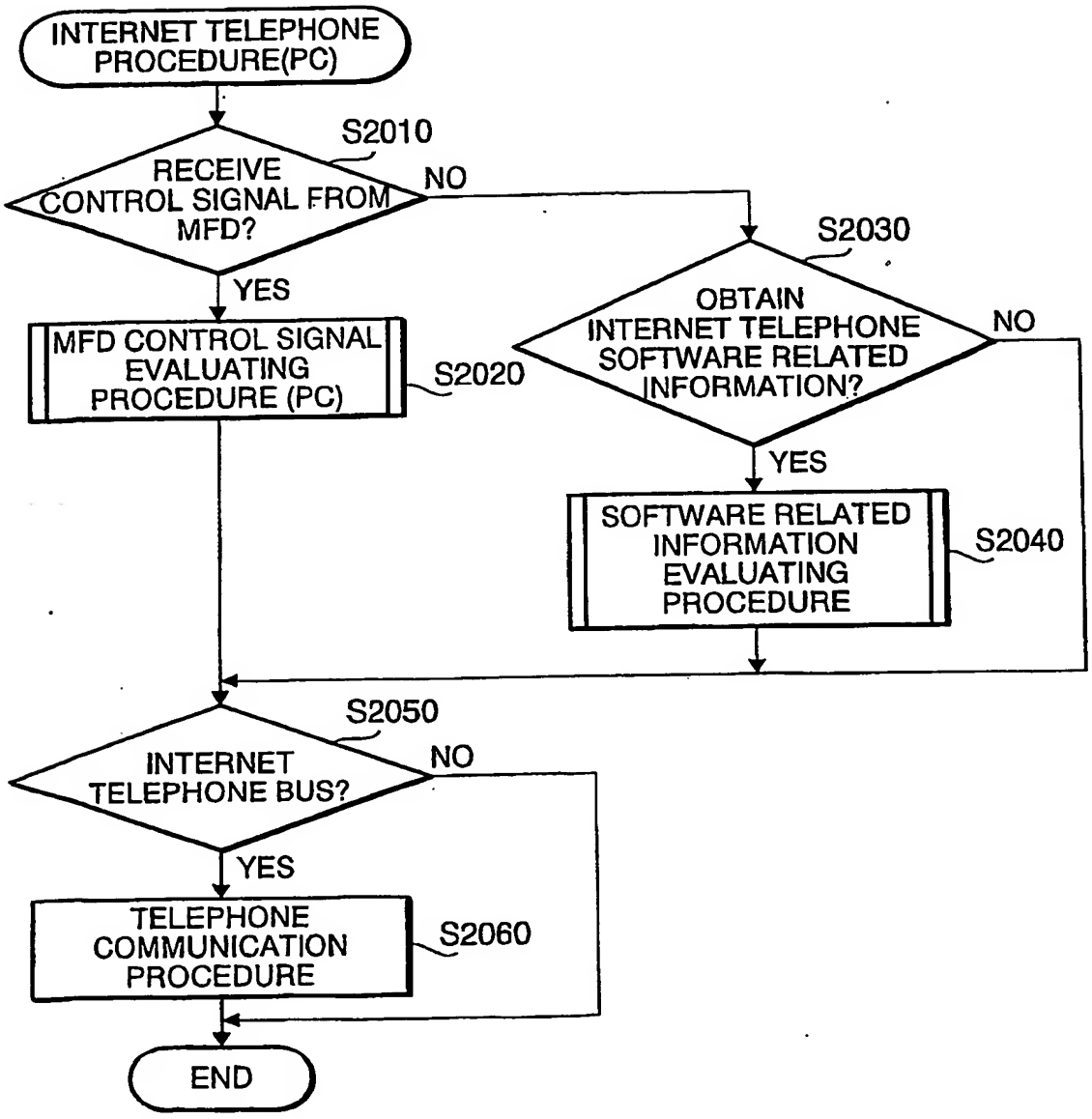

CORDLESS HANDSET TELEPHONE INTERRUPTION DETERMINING PROCEDURE
S1810
INTERRUPTION CONDITION SATISFIED?
NO
YES
TRANSMIT GUIDE VOICE MESSAGE NOTIFYINT INTERRUPTION OF TELEPHONE COMMUNICATION OF CORDLESS HANDSET TO PC
S1820
TRANSMIT INTERRUPTION TELEPHONE TERMINATING COMMAND TO PC
S1830
END

FIG. 9


INTERNET TELEPHONE PROCEDURE(PC)
S2010
RECEIVE CONTROL SIGNAL FROM MFD?
NO
YES
S2030
OBTAIN INTERNET TELEPHONE SOFTWARE RELATED INFORMATION?
NO
YES
MFD CONTROL SIGNAL EVALUATING PROCEDURE (PC)
S2020
SOFTWARE RELATED INFORMATION EVALUATING PROCEDURE
S2040
S2050
INTERNET TELEPHONE BUS?
NO
YES
TELEPHONE COMMUNICATION PROCEDURE
S2060
END

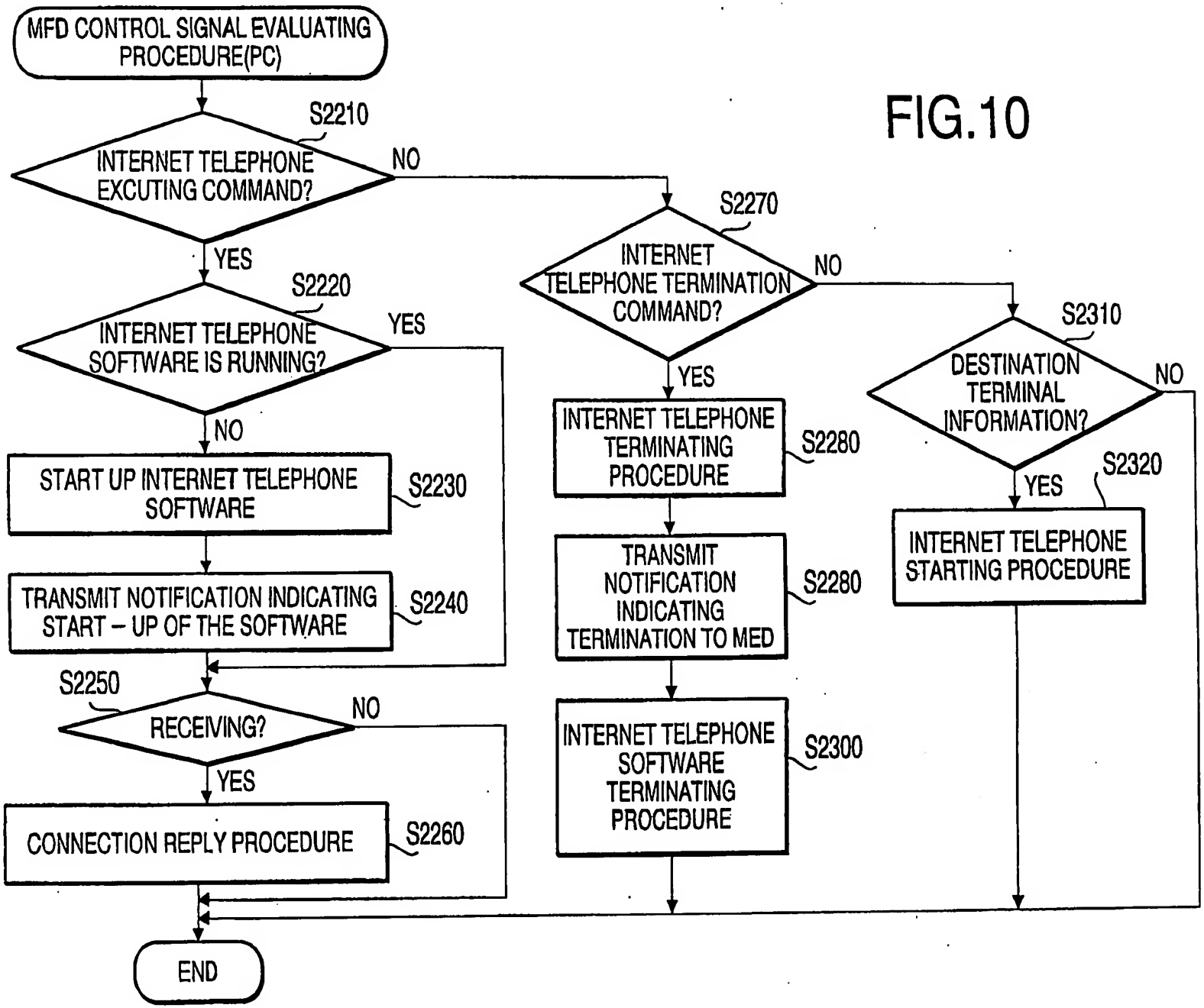

MFD CONTROL SIGNAL EVALUATING PROCEDURE(PC)
S2210
INTERNET TELEPHONE EXCUTING COMMAND?
NO
YES
S2220
INTERNET TELEPHONE SOFTWARE IS RUNNING?
YES
NO
START UP INTERNET TELEPHONE SOFTWARE
S2230
TRANSMIT NOTIFICATION INDICATING START – UP OF THE SOFTWARE
S2240
S2250
RECEIVING?
NO
YES
CONNECTION REPLY PROCEDURE
S2260
END
S2270
INTERNET TELEPHONE TERMINATION COMMAND?
NO
YES
INTERNET TELEPHONE TERMINATING PROCEDURE
S2280
TRANSMIT NOTIFICATION INDICATING TERMINATION TO MED
S2280
INTERNET TELEPHONE SOFTWARE TERMINATING PROCEDURE
S2300
S2310
DESTINATION TERMINAL INFORMATION?
NO
YES
S2320
INTERNET TELEPHONE STARTING PROCEDURE

FIG.10

FIG.11

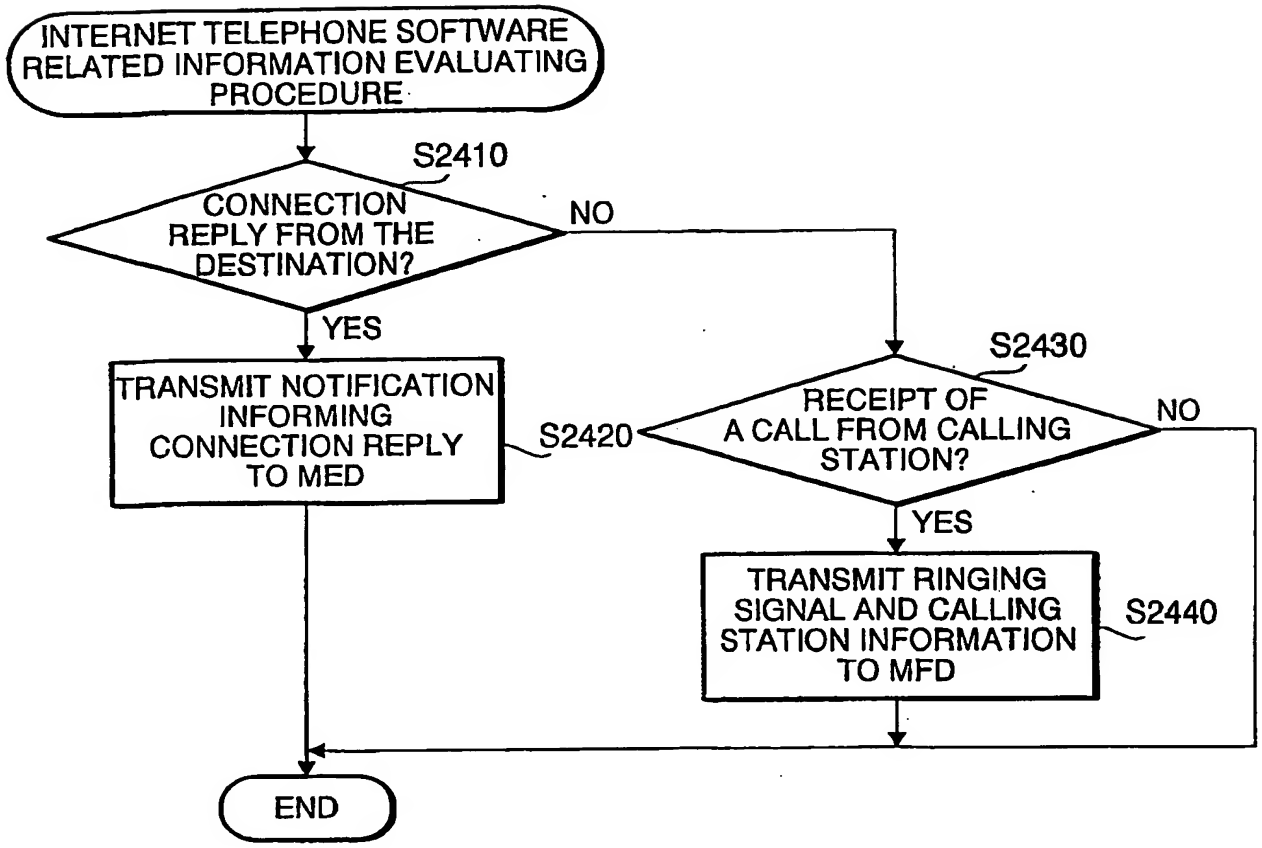
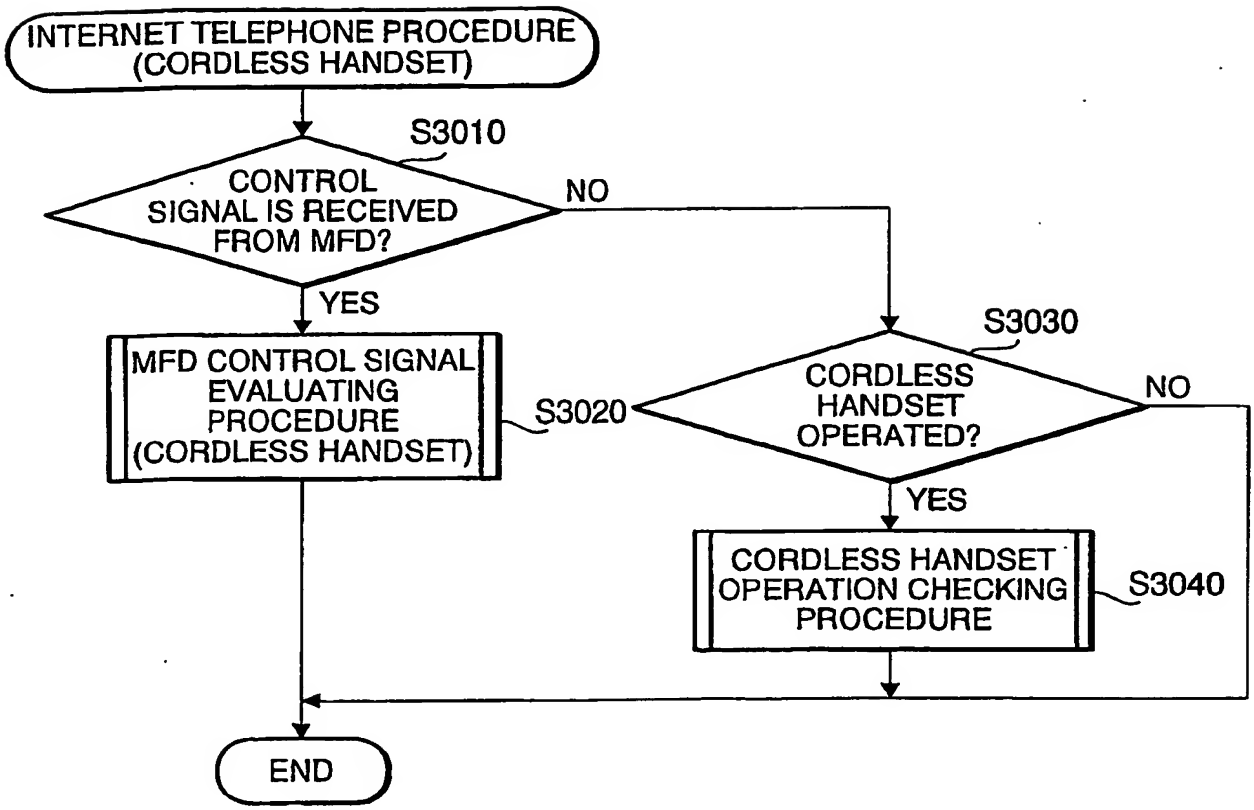

INTERNET TELEPHONE SOFTWARE RELATED INFORMATION EVALUATING PROCEDURE
S2410
CONNECTION REPLY FROM THE DESTINATION?
NO
YES
TRANSMIT NOTIFICATION INFORMING CONNECTION REPLY TO MED
S2420
S2430
RECEIPT OF A CALL FROM CALLING STATION?
NO
YES
TRANSMIT RINGING SIGNAL AND CALLING STATION INFORMATION TO MFD
S2440
END

FIG.12


INTERNET TELEPHONE PROCEDURE (CORDLESS HANDSET)
S3010
CONTROL SIGNAL IS RECEIVED FROM MFD?
NO
YES
MFD CONTROL SIGNAL EVALUATING PROCEDURE (CORDLESS HANDSET)
S3020
S3030
CORDLESS HANDSET OPERATED?
NO
YES
CORDLESS HANDSET OPERATION CHECKING PROCEDURE
S3040
END

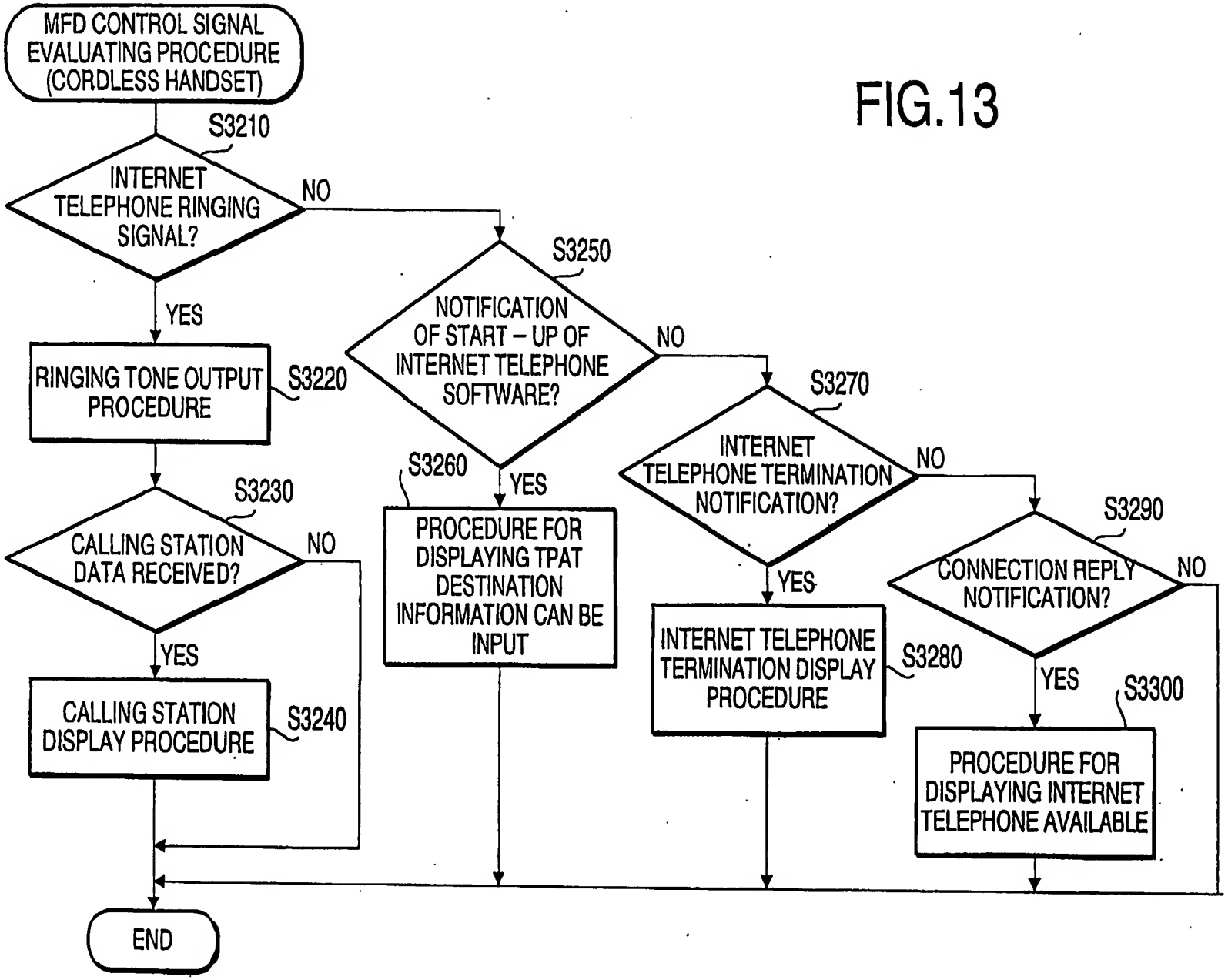

MFD CONTROL SIGNAL EVALUATING PROCEDURE (CORDLESS HANDSET)
S3210
INTERNET TELEPHONE RINGING SIGNAL?
NO
YES
RINGING TONE OUTPUT PROCEDURE
S3220
S3230
CALLING STATION DATA RECEIVED?
NO
YES
CALLING STATION DISPLAY PROCEDURE
S3240
S3250
NOTIFICATION OF START – UP OF INTERNET TELEPHONE SOFTWARE?
NO
S3260
YES
PROCEDURE FOR DISPLAYING TPAT DESTINATION INFORMATION CAN BE INPUT
S3270
INTERNET TELEPHONE TERMINATION NOTIFICATION?
NO
YES
INTERNET TELEPHONE TERMINATION DISPLAY PROCEDURE
S3280
S3290
CONNECTION REPLY NOTIFICATION?
NO
YES
S3300
PROCEDURE FOR DISPLAYING INTERNET TELEPHONE AVAILABLE
END

FIG.13

FIG.14

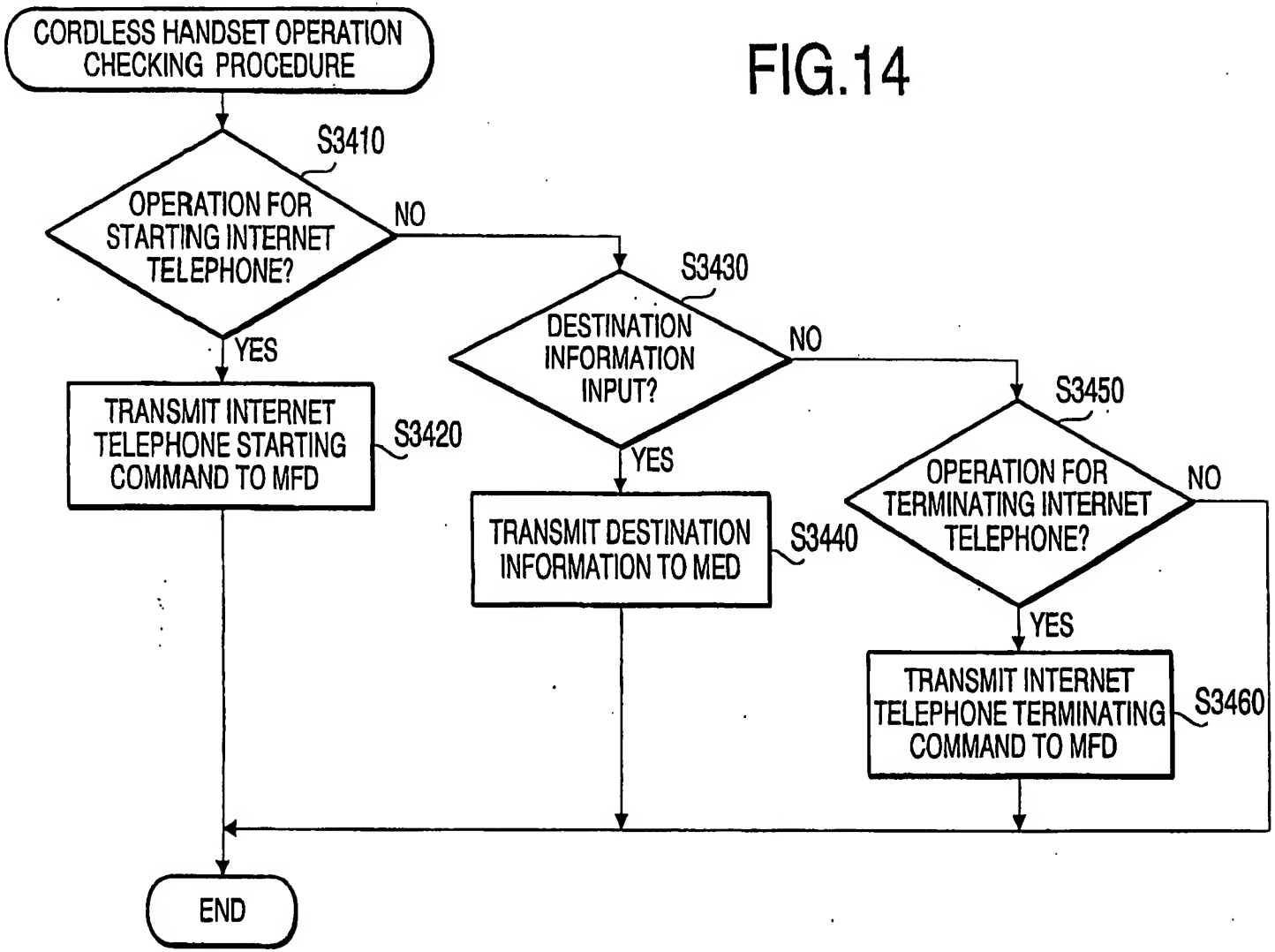
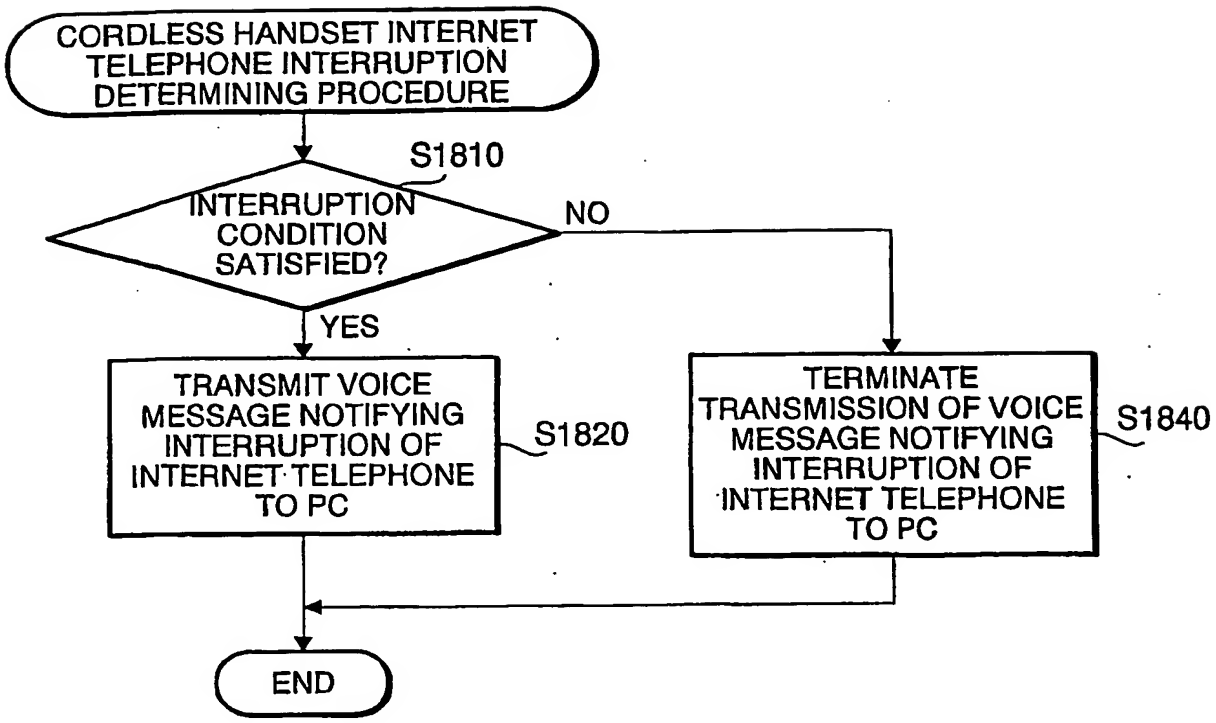

CORDLESS HANDSET OPERATION CHECKING PROCEDURE
S3410
OPERATION FOR STARTING INTERNET TELEPHONE?
NO
YES
TRANSMIT INTERNET TELEPHONE STARTING COMMAND TO MFD
S3420
S3430
DESTINATION INFORMATION INPUT?
NO
YES
TRANSMIT DESTINATION INFORMATION TO MED
S3440
S3450
OPERATION FOR TERMINATING INTERNET TELEPHONE?
NO
YES
TRANSMIT INTERNET TELEPHONE TERMINATING COMMAND TO MFD
S3460
END

FIG.15


CORDLESS HANDSET INTERNET TELEPHONE INTERRUPTION DETERMINING PROCEDURE
S1810
INTERRUPTION CONDITION SATISFIED?
NO
YES
TRANSMIT VOICE MESSAGE NOTIFYING INTERRUPTION OF INTERNET TELEPHONE TO PC
S1820
TERMINATE TRANSMISSION OF VOICE MESSAGE NOTIFYING INTERRUPTION OF INTERNET TELEPHONE TO PC
S1840
END

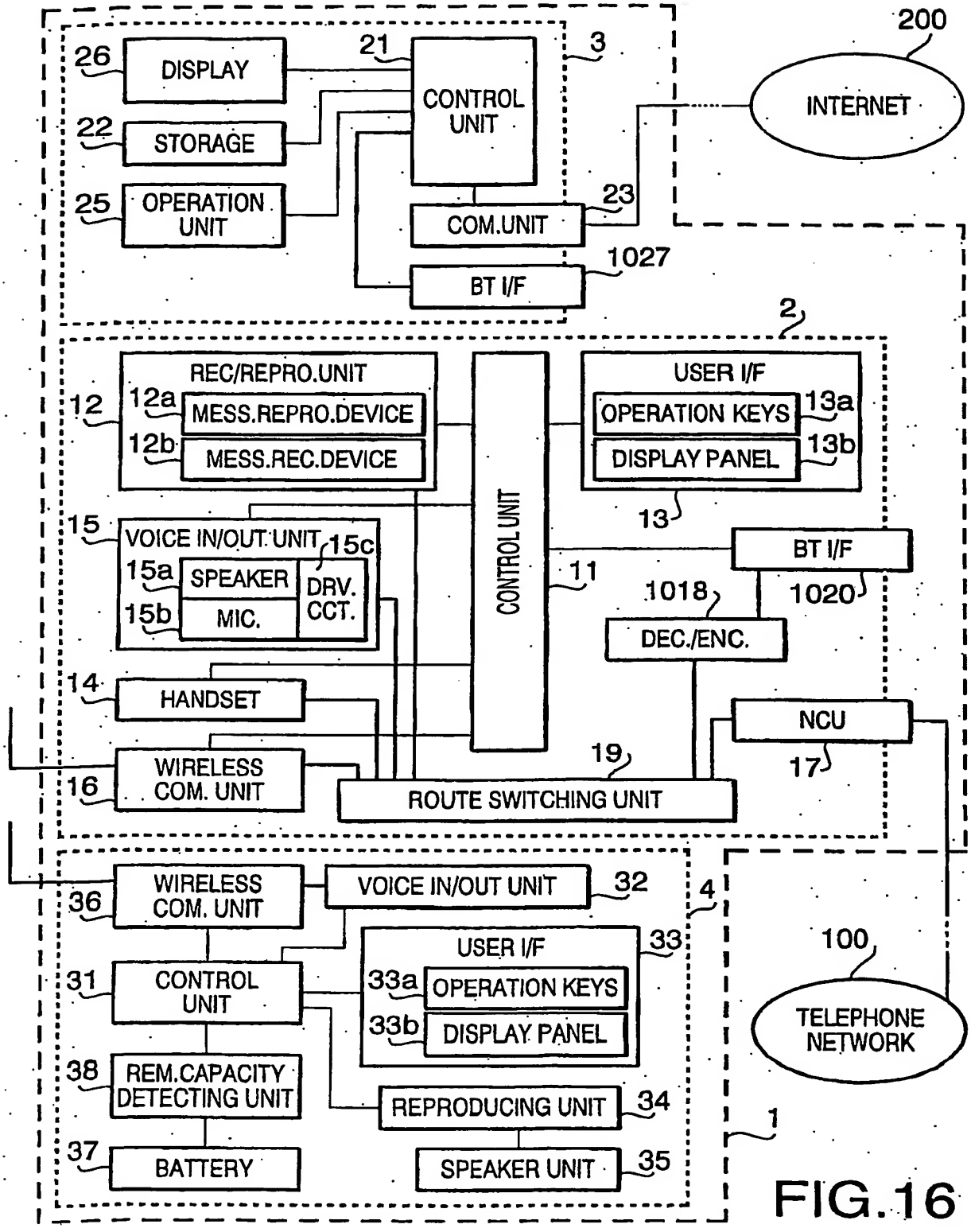

200
INTERNET
26
DISPLAY
21
CONTROL UNIT
3
22
STORAGE
25
OPERATION UNIT
23
COM.UNIT
1027
BT I/F
2
REC/REPRO.UNIT
12
12a
MESS.REPRO.DEVICE
12b
MESS.REC.DEVICE
USER I/F
OPERATION KEYS
13a
DISPLAY PANEL
13b
13
15
VOICE IN/OUT UNIT
15c
15a
SPEAKER
DRV. CCT.
15b
MIC.
CONTROL UNIT
11
BT I/F
1018
1020
DEC./ENC.
14
HANDSET
NCU
17
19
16
WIRELESS COM. UNIT
ROUTE SWITCHING UNIT
36
WIRELESS COM. UNIT
VOICE IN/OUT UNIT
32
4
USER I/F
33
33a
OPERATION KEYS
33b
DISPLAY PANEL
100
31
CONTROL UNIT
TELEPHONE NETWORK
38
REM.CAPACITY DETECTING UNIT
REPRODUCING UNIT
34
1
37
BATTERY
SPEAKER UNIT
35

FIG.16

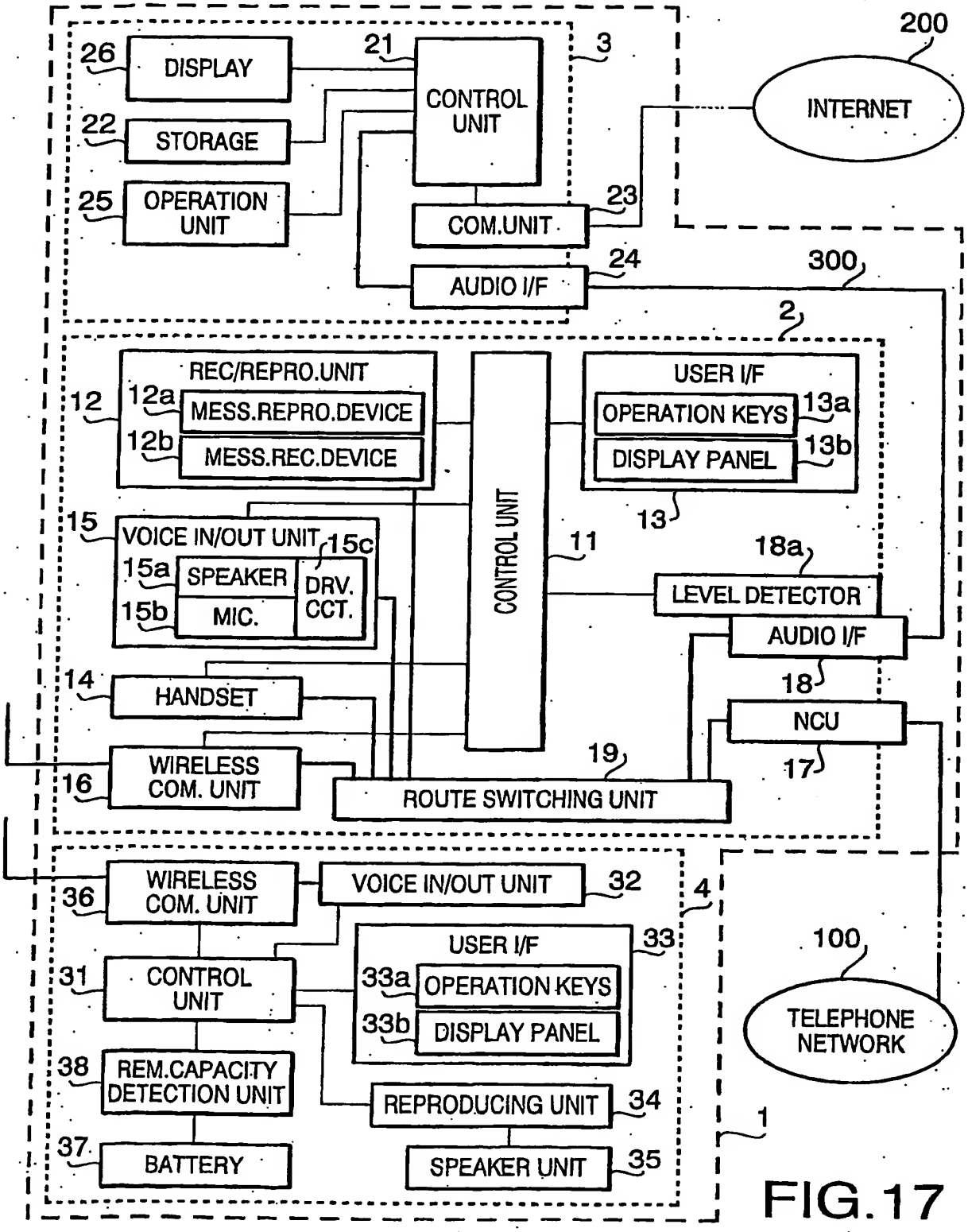

200
INTERNET
26
DISPLAY
21
CONTROL UNIT
3
22
STORAGE
25
OPERATION UNIT
23
COM.UNIT
24
AUDIO I/F
300
2
REC/REPRO.UNIT
12
12a
MESS.REPRO.DEVICE
12b
MESS.REC.DEVICE
USER I/F
OPERATION KEYS
13a
DISPLAY PANEL
13b
13
15
VOICE IN/OUT UNIT
15c
15a
SPEAKER
DRV. CCT.
15b
MIC.
CONTROL UNIT
11
18a
LEVEL DETECTOR
AUDIO I/F
18
14
HANDSET
NCU
17
19
16
WIRELESS COM. UNIT
ROUTE SWITCHING UNIT
4
36
WIRELESS COM. UNIT
VOICE IN/OUT UNIT
32
USER I/F
33
33a
OPERATION KEYS
33b
DISPLAY PANEL
100
31
CONTROL UNIT
TELEPHONE NETWORK
38
REM.CAPACITY DETECTION UNIT
REPRODUCING UNIT
34
1
37
BATTERY
SPEAKER UNIT
35

FIG.17

FIG.18

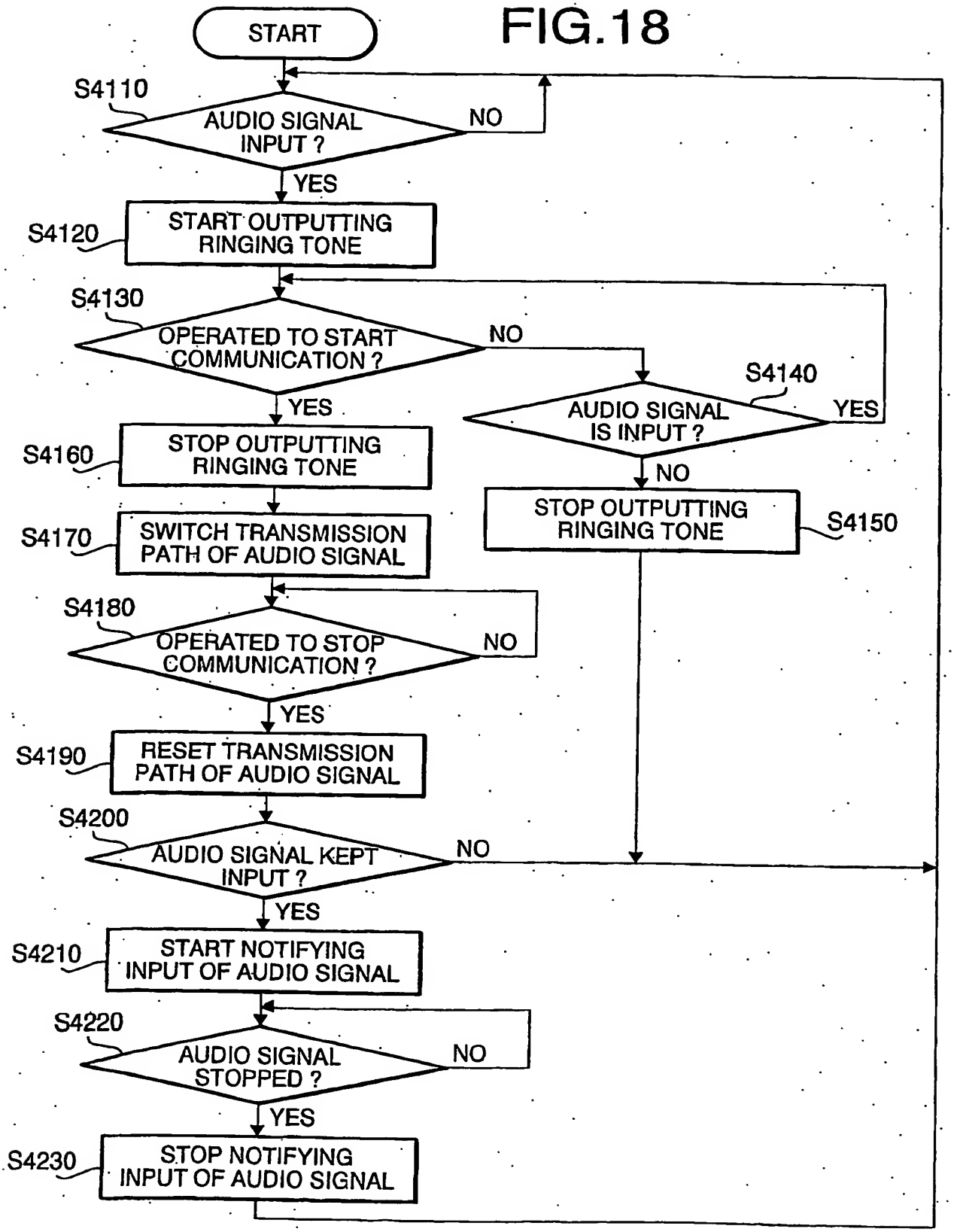

START
S4110
AUDIO SIGNAL INPUT ?
NO
YES
S4120
START OUTPUTTING RINGING TONE
S4130
OPERATED TO START COMMUNICATION ?
NO
YES
S4140
AUDIO SIGNAL IS INPUT ?
YES
NO
S4160
STOP OUTPUTTING RINGING TONE
S4150
STOP OUTPUTTING RINGING TONE
S4170
SWITCH TRANSMISSION PATH OF AUDIO SIGNAL
S4180
OPERATED TO STOP COMMUNICATION ?
NO
YES
S4190
RESET TRANSMISSION PATH OF AUDIO SIGNAL
S4200
AUDIO SIGNAL KEPT INPUT ?
NO
YES
S4210
START NOTIFYING INPUT OF AUDIO SIGNAL
S4220
AUDIO SIGNAL STOPPED ?
NO
YES
S4230
STOP NOTIFYING INPUT OF AUDIO SIGNAL

FIG.19

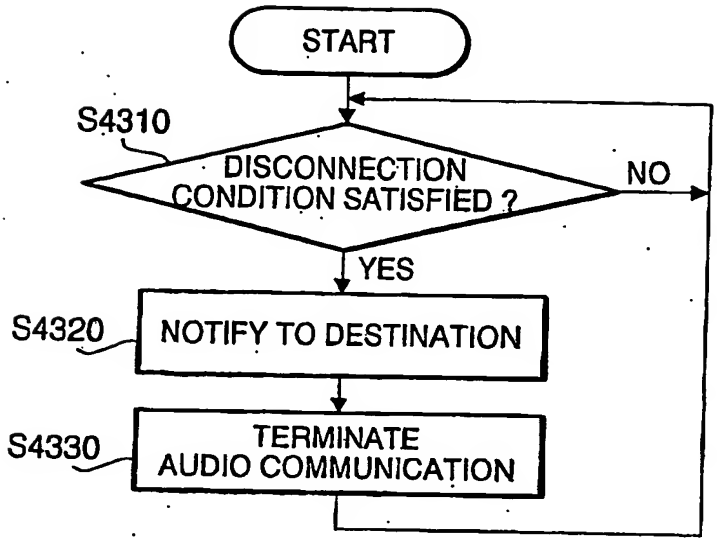
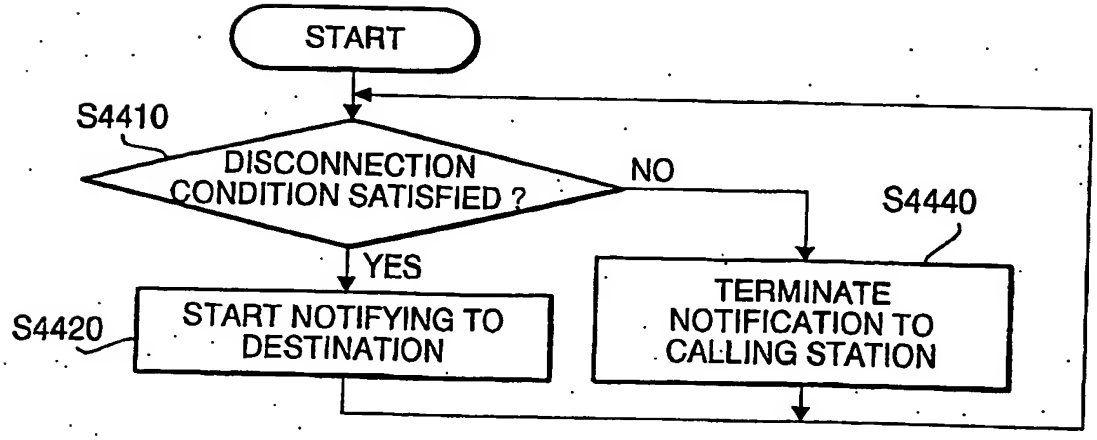

START
S4310
DISCONNECTION CONDITION SATISFIED ?
NO
YES
S4320
NOTIFY TO DESTINATION
S4330
TERMINATE AUDIO COMMUNICATION

FIG.20


START
S4410
DISCONNECTION CONDITION SATISFIED ?
NO
S4440
YES
S4420
START NOTIFYING TO DESTINATION
TERMINATE NOTIFICATION TO CALLING STATION